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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,989	11/26/2003	Brian D. Kernan	MIT 10327 US	7978
21403	7590	10/16/2006		
STEVEN J WEISSBURG 238 MAIN STREET SUITE 303 CAMBRIDGE, MA 02142			EXAMINER WYSZOMIERSKI, GEORGE P	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/723,989

**Applicant(s)**

KERNAN ET AL.

**Examiner**

George P. Wyszomierski

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 44-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/23/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant's election without traverse of Group I, claims 1-43 in the reply filed on July 24, 2006 is acknowledged.

2. Claims 12-16, 18, 20-29 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In claim 12, line 4, the terms "said infiltrated porosities" and "said metal powder" lack proper antecedent basis.

b) It is unclear what infiltrant compositions are included or excluded by claims 14-16, i.e. what is the definition of the various "modes" recited in these claims, and what constitutes the metes and bounds of the term "near" in claims 14 and 15?

c) In claims 18 and 20-29, the meanings of the terms D2, M2, 440C, Austenitic manganese grade C, A3, O6, 410, T8, CN-7MS, CF-10SMnN, H13, S6, and ACI-HF are uncertain.

d) In claim 31, the term " $R_N$ " is undefined.

e) Claims dependent upon any of the above are likewise rejected under this statute.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined recitation of claims 1-63 of U.S.

Patent No. 6,719,948 and claims 1-57 of U.S. Patent No. 7,060,222.

Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the present claims, the claims of the '948 patent, and the claims of the '222 patent are directed to processes of using capillary pressure to infiltrate a composition into a metal skeleton, the infiltrant having a composition similar to that of the skeleton except containing a melting point depressant. All steps of the claimed process appear to be performed in the same order and for the same purpose as they are in the claims of the '948 and '222 patents.

The instant claims differ from the patented claims in that the patented claims are not limited to iron containing skeletons or infiltrants, or to the specified compositions of instant claims 38-43, and the patented claims do not specify the relationship between the infiltration temperature and the phase structure of the infiltrant as recited in clause d(iii) of claim 1 or clause c(iii) of claims 38, 40 or 42. However,

a) The claims of the two prior patents establish that the process steps as claimed are operable for a wide variety of metallic compositions, and claims 59 and 60 of the '948 patent establish that this process is operable for compositions containing iron, carbon, silicon,

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chromium, nickel, molybdenum, copper, and/or niobium, i.e. analogous to the compositions of claims 38, 40 and 42. It would therefore be a reasonable assumption that this process would be applicable to compositions as presently recited.


b) At least claim 21 of the '948 patent and claims 9 and 23 of the '222 patent recite a relationship between the infiltration temperature and the liquidus and solidus characteristics of the infiltrant.

Therefore the invention as presently claimed cannot be said to define processes that are patentably distinct from the processes as defined in the claims of the '948 and '222 patents.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300. This Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1700

GPW  
October 6, 2006